

game birds, for it runs from ducks and geese to sandpipers, plovers, grouse, and doves, while it includes all that are sold as game in the local markets. It aims at furnishing full information, from collected records, often much scattered in print, from local sources, and from personal observation, to the game-hunter, the naturalist, the legislator, and those concerned in bird preservation; and with this object in view is compiled by three of the best ornithologists in the State, who have had the further advantage of the use of the unpublished papers of Mr. L. Belding on the birds of the region.

In a general review it is unnecessary to enter upon details of the special part of the work, relating to the particular species; but we may express our appreciation of the thorough way in which this is carried out, a way reminding us of Baird, Brewer, and Ridgway's "Birds of North America." A glossary and keys to the main groups and species are followed by full descriptions, not only of adults, but also of the young, while useful marks for identification in the field are added, to precede the excellent accounts of habits, distribution, and so forth.

Obviously the main object of the writers is economic; they devote their attention most closely to that point of view, and emphasise strongly the need for the protection of birds which form part of the food supply; they examine and list the local game laws, and study their effect on the preservation of species. Moreover, the work is issued as a publication of the University of California, with the important aid of its zoological collections, and also with the hearty co-operation of the Fish and Game Commission of the State.

The economic factors are thoroughly discussed under separate headings. A study of the list of laws, coupled with Federal regulations, will show the great importance attached to the subject of this book in the United States, where, more than in any other country, bird protection has become necessary, and, as a matter of fact, has been ungrudgingly granted.

A goodly number of line drawings are distributed throughout the letterpress to explain important points of structure, while sixteen coloured plates decorate the pages, though the coloration is perhaps scarcely up to the standard of the text. Nine are the work of the well-known artist, L. A. Fuentes.

WAR SURGERY.

Surgery at a Casualty Clearing Station. By C. Wallace and John Fraser. Pp. xi + 320. (London: A. and C. Black, Ltd., 1918.) Price 10s. 6d. net.

MAJOR-GEN. CUTHBERT WALLACE and Major John Fraser have written a very interesting book. Gen. Wallace was consulting surgeon to the 1st Army, B.E.F., and remained in France during practically the whole war. His

experience entitles him to discuss the various phases of casualty clearing station work, since he has seen the C.C.S. compelled, by the *force majeure* of war, to undertake and adapt itself to surgery, for which it was never originally intended, and for which it only gradually acquired the equipment and *personnel*. The idea that surgical operations could be performed near the firing line was not accepted at the beginning of the war. It was anticipated that casualties would be dressed and fed at the C.C.S., and sent to base hospitals for operative treatment. The appearance of gas gangrene on a widespread scale in wounds of all sorts, even the most trivial, made it imperative that the surgeon should be brought nearer to the fighting zone.

Delay of even a few hours meant loss of limbs and loss of lives. If, however, every wounded man could have his wound excised (not merely dressed, but the damaged tissues cut clean out) within a few hours of receiving his wound, gas gangrene was practically abolished. This question and its solution were not merely problems of academic interest to the surgeon; they were of vital moment to the authorities responsible for the Army as a fighting machine. A shortened period of invalidism is fully as important in maintaining the numerical strength of an army as is the keeping up of a supply of fresh reinforcements. The researches of Gen. Wallace and Major Fraser into the causes and methods of dealing with gas gangrene threw most valuable light on the whole subject. Chaps. iii. and iv., on "General Wounds and their Treatment" and on "Antiseptics," are particularly interesting in this connection. Although many antiseptics and their modes of application are described, the summary of all experience is probably contained in the last sentence of the following passage: "One may completely excise the wound, wash the wound surface with a fluid antiseptic, and immediately suture the wound, hoping to get healing by primary intention; it is possible that the washing with the antiseptic may even be omitted." Before the war ended probably no surgeon felt the least doubt that the ceremonial washing with an antiseptic could be omitted, and that the thing which mattered was the completeness of the excision.

The chapter on "Injuries of Bones" goes fully into the different types of splints in vogue, but the illustrations are singularly inadequate.

Abdominal wounds are excellently dealt with; the combined experience of the authors enables them to speak with judgment and authority. Injuries of the chest, of the head, and of the spine are carefully considered and discussed.

In the treatment of hæmorrhage it is interesting to notice the change in teaching as regards the application of the tourniquet. Gen. Wallace does not go so far as to say that the man who leaves a tourniquet on a limb is guilty of criminal neglect, but he points out the extreme dangers which attend anything more than a purely temporary use of this means of arresting hæmorrhage.

The closing chapter, on "Tetanus," describes one of the greatest triumphs of preventive medicine. In the early days of the war tetanus constituted one of the greatest terrors that the wounded man had to face and the surgeon to witness. The routine use of anti-tetanic serum as a prophylactic injection in every case of a wound or abrasion caused this dreadful complication to disappear almost entirely.

With the cessation of hostilities there will be less occasion to practise surgery as described in this book, but every medical officer to whose lot it may fall in the future to take part in any military campaign will be well advised to include Wallace and Fraser's handy little volume in his kit.

OUR BOOKSHELF.

A Star Atlas and Telescopic Handbook (Epoch 1920) for Students and Amateurs. By Arthur P. Norton. New and enlarged edition. Pp. 25+16 maps. (London and Edinburgh: Gall and Inglis, 1919.) Price 3s. 6d.

It is not surprising that a second edition of this work has been called for, remembering the growing interest in astronomy and the necessity that every follower of the science feels for a good star atlas. The first edition appeared in 1910, and we have no reason to depart from the opinion of its merits then expressed in these pages. Fifty years ago R. A. Proctor gave in the *Monthly Notices* (vol. xxviii., p. 188) the conditions with which a work of this kind should comply: (1) A moderate number of maps; (2) not too large for convenient use; (3) uniform in size and shape; (4) on the scale of an 18-in. globe at least; (5) with little distortion; and (6) with little variation of scale or area.

Mr. Norton's atlas contains eight double maps—that is to say, each forms a double-page opening of a book 11 in. by 9 in. Two of them cover a cap of 40° radius round each pole, whilst each of the remaining six covers a lune from 60° N. to 60° S. declination, about 5 hours of right ascension in width, the distance from pole to pole in the maps being about 23 in., from which it will be seen how well the first three of the above conditions are satisfied. Stars to the sixth magnitude, nebulae, and clusters are shown to the number of more than 7000, and a feature that will appeal to many students of the heavens is the reference to catalogues of various kinds and other useful information given by the lettering.

It has not been found necessary to make any alteration in the maps, which are as they were in the first edition, but the prefatory notes have been considerably amended and enlarged. The addition of a paragraph on the classification of star spectra is to be noted, and another of a list of novæ, which includes that of last year. A small table of the effects of atmospheric absorption is now given, and the sketch map of the

moon has been furnished with an index, both of which add to the usefulness of this moderately priced work.

Board of Agriculture and Fisheries. Guides to Smallholders. No. 1: *Pig-keeping*, pp. 32. No. 5: *Farm Crops*, pp. 32. No. 6: *Soils and Manures*, pp. 30. No. 7: *Fruit-growing on Small Holdings in England and Wales*, pp. 30. No. 9: *Potato-growing on Small Holdings*, pp. 32. (Board of Agriculture and Fisheries, 3 St. James's Square, S.W.1, 1919.) Price 2d. each.

It is always difficult to cater for smallholders because of their great variation; in their ranks are found many types of men, some fairly well educated, who, for one reason or other, have taken up farming late in life, while others are shrewd, capable labourers who have risen in the ranks, and, but for their lack of education, would long ago have been successful farmers on their own account. The booklets before us are designed particularly for the first type of men, but they will also prove helpful to the second.

The information is sound, and put in the colloquial form now so much in favour in extra-official publications. The soil is described in one place in Tull's picturesque phrase as "the pasture of plants"; it is elsewhere likened to "the plant's kitchen," and the organisms producing the useful nitrates are called the "domestics that serve the crops." "When the land becomes waterlogged things go wrong in the plant's kitchen. The unhealthy yellow colour of corn crops so often associated with cold weather in spring is not really so much due to cold as to epidemics among the 'domestics' and a stoppage of the plant's supply of food." Such descriptions at least show the cultivator that the soil is more complex than it seems, and must be treated with respect. The practical advice is quite good: the smallholder is told how much seed to sow, in many cases—especially fruit and potatoes—he is told what varieties to select from, and useful hints are given on the general management of the crop.

The publications are in the form of booklets of large postcard size, and they are well got up; they represent a serious attempt, which we hope will be successful, to help the smallholder on many of the technical points that are likely to trouble him.

Inorganic Chemistry. By Prof. James Walker. Pp. viii+327. Eleventh edition. (London: G. Bell and Sons, Ltd., 1919.) Price 5s. net.

PROF. WALKER has recast his popular elementary text-book of inorganic chemistry. The general and systematic portions are in this edition less strictly separated. All the common elements now receive brief systematic treatment, and the theoretical sections have been enlarged. In its new form the book should be even more widely adopted than hitherto.